A. **Title**: Use one of the titles below, exactly as worded, and provide a brief Project Name.

Title Juvenile Salmonid Monitoring – Port of Everett Facilities, Lower Snohomish Estuary and Marine Nearshore, Everett, Washington

1. Application for Permit for Scientific Purposes under the Endangered Species Act of 1973. (If the proposal is for field surveys, genetics research, etc.)

(requesting renewal of Permit 1313, which expires 12/31/06)

Project Name

Juvenile salmonid monitoring at Port of Everett mitigation sites – created tidal saltmarsh (Union Slough Restoration Site) and restored/renourished beach (Everett Rail/Barge Site)

B. **Species**: *Puget Sound ESU Chinook salmon; Puget Sound ESU steelhead trout*

C. **Date of Permit Application**: *June 15, 2006*

D. **Applicant Identity**:

1. *Jon Houghton, Ph.D Senior Marine Fisheries Biologist*
2. *Pentec Environmental*
3. *120 Third Ave. South Suite 110, Edmonds, WA 98020*
4. *ph. (425) 329-1150*
5. *FAX (425) 778-9417*
6. *email address jon@pentecenv.com*

Resume Attached

E. **Information on Personnel, Cooperators, and Sponsors**: If the same person or entity will hold several roles, you may state their address information once and refer back to it.

1. Principal Investigator – *Jon Houghton*
   Field Supervisor – *Jim Starkes, Resume attached*

2. Field personnel.
   Derek Ormerod, Water Resources Engineer
   Celina Abercrombie, Biologist
   Bruce Rummel, Biologist

3. Client
Graham Anderson – Senior Planner
Port of Everett
PO Box 538
Everett, WA 98206
(425) 388-0703

4. If the proposed activities will be conducted by a contractor, provide a statement that a qualified member of your staff (include name(s) and qualifications) will supervise or observe the taking. Include a copy of the proposed contract or a letter from the contractor indicating agreement to operate under any and all permit conditions, should a permit be granted.

All work will be conducted by Pentec Environmental.

5. Provide a description of the arrangements for the disposition of any tissue samples, dead specimens, or other remains. If you will not retain samples, state that samples will be returned to their capture site (see section H.2.). If you are going to retain tissue samples (including whole fish), either in a museum or other institution for the continued benefit to science, include information on where the samples will be stored, transferred, and how/when/where they will be disposed. Include the list of researchers, laboratories, museums, and/or institutional collections that would receive these tissue samples or specimens. Please include name, address, contact, and phone number for each.

All specimens of listed species will be returned to their capture site, released unharmed after measurement.

6. For transport and long-term holding of listed species (see Section I), provide the qualifications and experience of all staff responsible for care without supervision, including a written certification from a licensed veterinarian knowledgeable about the requested species (or similar species), or from a recognized expert on the species (or similar species) that he/she has personally reviewed the criteria for transporting and maintaining the animal(s) and that in his/her opinion they are adequate to provide for the well-being of the animal. Include the name, address, email, and phone number of this veterinarian, consulting expert, or equivalent who will be available during the proposed activities.

No transport or long-term holding or handling of listed species will be conducted.

F. **Project Description, Purpose, and Significance**: Describe the purpose of your study or project. If available, attach a copy of the formal project proposal or contract, including

the contract number, to your application. You may reference the appropriate section of the proposal/contract in response to a particular question.

Attached:
- *Union Slough Restoration Site 2005 Annual Report*
- *Conservation Measures and Monitoring Plan, Port of Everett Rail/Barge Transfer Facility*

1. A justification of the objective(s): motivation, history, goals, etc. State how the listed species will benefit from the proposed activities. Begin with a brief description of the purpose of the research (30 words or less).

   The purposes of the salmonid monitoring are to determine the use and success of two Port of Everett Mitigation Sites—The Union Slough Restoration Site and the Rail/Barge Beach Restoration Project

2. A statement of whether or not the proposed project or program responds directly or indirectly to a recommendation or requirement of a Federal agency (Include citations if applicable). Identify any secured or proposed Federal funding source(s) for the proposed activities, including names, addresses, and phone numbers of the sponsors, cooperating institutions, etc.;

   Both projects required federal permits and the monitoring programs are a condition of the permits. Additional information can be obtained from the following documents:

   Port of Everett/Rail Barge Transfer Facility Biological Evaluation, Everett, WA. March 3, 2004. Corps Reference No. 200301269

   Stage I Marine Terminal Improvement. Final Mitigation Plan. August 28, 1996. Port of Everett, Everett, WA Corps Reference No. 1996-2-00815

3. A statement of whether or not the proposed project or program has broader significance than the individual project's goals, or is part of a larger scale research management or restoration plan (Include citations if applicable)

   Both projects are individual restoration projects created as mitigation for necessary Port of Everett development activities in the marine nearshore.

4. A description of any relationships or similarities of the proposed activities to other proposed or ongoing projects and programs, and whether the potential exists to cooperate and coordinate with other similar studies or activities. (Include citations if applicable);

The Washington Department of Transportation has proposed to conduct a similar upper beach restoration project at a beach approximately a half-mile north of the Everett Rail Barge Beach Restoration Project Site.

Sound Transit 2002. Mitigation plan Everett-Seattle Commuter Rail Project. Sound Transit. Prepared for the Central Puget Sound Regional Transity Authority, by Anchor Environmental, LLC.

The Union Slough Restoration Site has recently been expanded (2006) to connect an additional-5.3 acre area to the created saltmarsh.

5. A justification for using listed species in the study or activities, and a discussion of possible alternatives to using listed species.

Both sites were created to benefit juvenile Chinook salmon. The monitoring program is measuring the success of the projects. Juvenile chum, pink, and coho salmon are also evaluated in the data we collect, as well as, marine resident species.

G. **Project Methodology**: Provide a detailed description of the project, or program, in which the listed species is to be used, including:

1. The proposed duration of the project or program, including start and end dates. Provide the date the project is scheduled to start. Be realistic. Use a start date, whenever possible, that is at least six months after the application is submitted. Use an end date that covers all possible scenarios, or up to five years from the start date. If the project or program will continue into the foreseeable future, provide the rationale for the extended time frame. Provide times during the year that specific activities will occur. Be specific if multiple activities are proposed (e.g., spawning surveys from October to December; juvenile trapping from April to June).

Everett Rail Barge Beach Restoration Site. Beach restoration was conducted from October 2005 through mid-February 2006. The first monitoring event for juvenile salmonids occurred in April/May 2006 (under the current permit), continuing annually during the springs of 2007, 2008, and again in 2010.

Union Slough Restoration Site. The Union Slough berm was breached creating a tidal mudflat/saltmarsh during February 2001. Monitoring for juvenile salmonids first occurred in the spring of 2003 (April/May; under the current permit), continuing, if required, bi-annually during the springs of 2005, 2007, and again in 2010.

2. A discussion of the procedures and techniques which will be used during the project. Begin with a BRIEF description of the capture methods (seine, backpack electrofishing, etc.) and a brief description of any intrusive methods (anesthetic, tagging, marking, tissue samples, etc.).

Juvenile salmonids including Puget Sound Chinook salmon will be captured using a standard 37m floating beach seine at higher tidal elevations, counted, measured to fork length, checked for adipose clips, and released unharmed at the point of capture.

Follow with more specific descriptions that will allow us to assess the activities. The discussion should include, at a minimum:

a. Method(s) of capture and of release;

The method of capture will be a standardized Puget Sound floating beach seine (37m in length; 2m in height at the codend; 18m wings composed of 3cm mesh joined to a 2m by 2.4m codend with 6mm mesh). Captured fish will be placed in 5 gallon buckets of ambient water at the water's edge. Fish will be measured to fork length and placed in a second bucket of ambient water to recover for approximately one half hour before releasing back into the water at point of capture.

b. The sampling schedule, including locations and dates if available. Be as specific as possible. Locations should be listed from general to most specific, including bodies of water, rivers, tributaries, streams or creeks, and a geographical descriptor (e.g., Columbia River, Snake River, Imnaha River, River Mile 42). Include latitude/longitude coordinates, if possible. Include 4th field hydrologic units (HUCs) whenever possible.

<u>Union Slough Restoration Site</u>:
Four beach seine stations will be located and sampled in the Union Slough Restoration site saltmarsh (see Figure 4 of the attached 2005 Annual Report). Union Slough is a tributary slough of the Snohomish River, located approximately 1km upstream of the mouth in Everett, WA (see Figure 1 of the attached 2005 Annual Report). One reference station will also be sampled at Spencer Marsh, located on Union Slough approximately 4 km upstream of the mouth.

Monthly sampling is planned in April and May of 2007 and 2010.

<u>Everett Rail Barge Beach Restoration Site</u>

Three beach seine stations will be located and sampled on the restored beach at the Everett Rail Barge Site, located near Elliot Point, Port Gardner, Puget Sound, Everett, WA (see Sheet 1 in the attached Conservation Measures and Monitoring Plan). One reference station will also be sampled on a natural beach immediately west of the restored beach.

Monthly sampling will be conducted in April and May of 2006, 2007, 2008, and 2010.

c. A description of any tags, including the attachment method, location, and special handling/holding associated with the tagging;

No tagging will be conducted.

d. A description of type and dosage of any drugs to be used, purpose of use, and method of application;

No anesthetic will be used.

e. Temporary holding time prior to release of the individual(s) and the manner in which they will be detained. For transport and long-term holding, please fill out section I *Transportation and Holding*; and

After measurement, specimens will be allowed to recover in a recovery bucket of ambient water for approximately one half hour before release back into the water at the capture point. No further holding or transportation of listed specimens will be conducted.

f. Number and types of samples to be taken from each individual, including sampling protocol.

Individual fish will be measured to fork length, noted for adipose clips, and released. No tissue or scale samples will be collected.

3. A discussion of possible alternatives to using the proposed methods. If applicable, you should try to anticipate alternative scenarios due to circumstances such as changes in environmental conditions, annual variations in species abundance, necessary changes in proposed procedures, etc. Such scenarios should be addressed in the *Description and Estimates of Take* section below if they affect the nature or amount of potential take of listed species. This planning may avoid the potentially lengthy process of modifying the permit.

If numerous specimens (>50) of any given species are collected in a beach seine set, only a representative sample will be measured, the remainder will be counted and released without measurement. This situation has occurred with juvenile chum and pink salmon in April and with the marine shiner perch and sand lance, in May. It has not occurred with the listed Puget Sound Chinook salmon.

4. A discussion of the potential for injury or mortality to the species involved, and the steps that will be taken to minimize adverse effects and to ensure that the species will be taken in a humane manner.

   Every effort to release fish specimens unharmed back into the water will be taken. Fish specimens will be placed into buckets of ambient water directly from the codend at the waters edge. The codend will not be pulled ashore, rather left submerged at the waters edge, minimizing the possibility of injury by stranding, dragging, or suffocation. Since only count and measurement data will be collected, no anesthetic will be applied to the water to prevent overdose. After measurement, fish will be placed into a recovery bucket of ambient water and allowed to recover for approximately one half hour before returning to the water at the point of capture. Fish will not be transported to other locations for release.

H. **Description and Estimates of Take**: Issued permits define a specific number of individuals of each species that can be taken under the approved study or project. You must provide sufficient detail in the attached table (see last page) for NMFS to determine the species, population group, and estimated number of individuals to be taken by each activity. You should also describe the specific life stage, and origin, (and sex, if appropriate) of the listed species targeted. Take into account alternative scenarios identified above in the *Project Description, Purpose, and Significance* section.

   Provide a separate table for each project, activity, or location, if appropriate. Attach the table at the end of the application. In addition, include:

   1. Describe the recent status and trends of each ESU/species proposed to be taken (include citations where possible). NMFS already possesses information at the ESU level (see various NMFS web sites), so there is no need to repeat it in your application. We are seeking new data here—specifically, status and trend data on any distinct populations the proposed action is likely to affect. Such information will help us evaluate the probable impacts of the proposed research.

      For both projects, the majority of juvenile Chinook salmon will likely come from Snohomish River stocks. Snohomish River Chinook stocks are composed of native summer Chinook, native fall Chinook, native Bridal Veil Creek fall Chinook, and hatchery Wallace River summer Chinook. The native Chinook stocks are listed as depressed and the hatchery stock healthy by the Washington State Department of

Fish and Wildlife (Washington Department of Fish and Wildlife and Western Washington Treaty Indian Tribes Salmon and Steelhead Stock Inventory 1994). Over the past five years, native summer Chinook stocks have met escapement levels as have many western Washington Chinook stocks, likely due to improved ocean conditions.

2. Provide a justification for all potential mortalities by take category. You should explain how you determined the numbers of listed species that would be killed, either intentionally (direct mortality, lethal take) or unintentionally (indirect mortality). You may reference section G.4. in explaining mortality rates.

   We anticipate less than 2 percent mortality for juvenile Chinook salmon captured in beach seine sets. Under the previous permit, sampling at the Union Slough Restoration Site in 2003 and 2005, no mortalities of Chinook salmon were observed. During large hauls of juvenile chum salmon (>50 specimens), it would not be uncommon to have several individual mortalities of chum because of handling times and the much smaller size of chum salmon during outmigration. Mortalities of chum were generally below 2 percent. Because juvenile Chinook salmon are substantially larger than chum salmon, Chinook are identified, collected out of the net first, counted, measured, and placed in recovery buckets by other field team members separately from other species to minimize handling time and stress.

3. Provide details on how all take estimates, including mortalities, were derived. Include citations when applicable.

   Take estimates were derived from actual experience of sampling events conducted under the previous federal permit.

4. Include a statement as to whether or not any USFWS listed species would be affected. If any would be, include which species and DPS' and the authority you have to take those species (permit, consultation, agreement).

   A healthy population of bull trout, listed as threatened under ESA, resides in the Snohomish River basin. No capture or take of bull trout is anticipated, based on the results of previous multi-year sampling under the previous federal permit. No bull trout were collected during sampling events in 2003 and 2005 at Union Slough, or 2006 at the Everett Rail Barge site.

I. **Transportation and Holding** *No listed species will be held or transported from the site.*

J. **Cooperative Breeding Program:** You MUST include a statement of willingness to participate in a cooperative breeding program and to maintain or contribute data to a breeding program, if such action is requested.

We will cooperate with any such requests.

K. **Previous or Concurrent Activities Involving Listed Species**:

1. Identify all previous permits where you were the permit holder or primary investigator working with federally-listed species; identify which species.

   Federal research permit #1313 will expire on December 31, 2006 (issued on February 20, 2002). This application is a for the renewal of that permit.

2. For the above permits, list all mortality events of listed species that have occurred in the last five years.

   No mortality of juvenile Chinook salmon was observed for any sampling events under this permit.

   a. List the ESU/species, life stage, origin, and population where applicable;

   b. Describe the number and causes of mortalities; and

   c. Describe the measures that have been taken to diminish or eliminate such mortalities, and the effectiveness of those measures.

L. **Certification**: You must include the following paragraph, exactly as worded, followed by the applicant or responsible party's signature, name, position title, and date:

"I hereby certify that the foregoing information is complete, true and correct to the best of my knowledge and belief. I understand this information is submitted for the purpose of obtaining a permit under the Endangered Species Act of 1973 (ESA) and regulations promulgated thereunder, and that any false statement may subject me to the criminal penalties of 18 U.S.C. 1001, or to penalties under the ESA."

August 1, 2006

Signature

Date

Jonathan P. Houghton, Ph.D. Senior Principal Marine Fisheries Biologist

Name and Position Title (print)

Attach résumés here or submit it/them as a separate document.

M. **Length of Time and Cost to Prepare Application (Optional)**: The public burden of these application instructions is evaluated periodically by the Office of Management and Budget under the Paperwork Reduction Act. Your response will help improve the accuracy of the estimates given for evaluation. You may send comments regarding this estimate or any other aspect of this information collection, including suggestions for reducing this burden, to the Chief, Endangered Species Division, at the address under *Where Do I Send the Application?*

1. Please estimate the length of time, in hours, it took to compile this application.

   4 hours

2. Please estimate the cost, in $US, of compiling this application, excluding the labor hours identified in 1. above. This estimate should include: cost of paper, printing, mailing, photocopying, etc.

   $100

Anticipated Annual Take

Use this table to specify anticipated types and numerical estimates of annual take for listed species during individual research or enhancement activities. Use a separate table for each discrete project or location **and label tables accordingly**. Each row must be explained in the application. All mortalities must be justified.

Location/Project: (if needed) *Everett Rail Barge Beach Restoration Site Monitoring Program*

ESU/ Species and population group if appropriate	Life Stage	Origin	Take Activity	Number of Fish Requested	Requested Unintentional Mortality	Research Location	Research Period
PS Chinook Salmon	*Juvenile*	*Naturally Produced*	*Capture, handle, release*	*100*	*2 out of 100*	*Elliot Point, Port Gardner, Everett, WA*	*April/May*
PS Chinook Salmon	*Juvenile*	*Artificially Propagated , clipped adipose*	*Capture, handle, release*	*100*	*2 out of 100*	*Elliot Point, Port Gardner, Everett, WA*	*April/May*
PS Steelhead	*Juvenile*	*Naturally Produced*	*Capture, handle, release*	*20*	*1 out of 20*	*Elliot Point, Port Gardner, Everett, WA*	*April/May*
PS Steelhead	*Juvenile*	*Artificially Propagated , clipped adipose*	*Capture, handle, release*	*20*	*1 out of 20*	*Elliot Point, Port Gardner, Everett, WA*	*April/May*

ESU/Species: List each ESU and Species (and populations, if appropriate) you are requesting to take. Include common and scientific names.

Life Stage: Specify fry, juvenile, smolt, pre-spawned adult, post-spawned adult (also note if live or dead when captured). You may combine juvenile (fry, juvenile, smolt) life stages.

Origin: Specify if the individuals are naturally-produced (wild), artificially-propagated (hatchery) with intact adipose fins, or artificially-propagated (hatchery) with clipped adipose fins.

Take Activity: Specify only one of the following for each line:

Collect for transport (including rescue/salvage)
Capture, handle, release
Capture, handle, tag, mark, tissue sample, and/or other invasive procedure, release
(Enter one or more intrusive procedure; you may combine or split.)
Intentional mortality (lethal take, direct mortality)
Removal (e.g., for broodstock collection)
Other take (specify)

Number of Fish Requested: Enter the number of fish that you are requesting for each Take Activity.

Requested Unintentional Mortality: Enter the number of fish that might die as an unintended result of the Take Activity. Enter it as a number OUT OF the number of fish requested for each Take Activity. Use N/A when Take Activity = Intentional mortality.

Research Location: Enter a location for each take. Identify locations that are more specific than whole project. Enter to the 4th field hydrologic unit code (HUC) whenever possible.

Research Period: Enter a range of dates. Identify dates if more specific than project as a whole.

Anticipated Annual Take

Use this table to specify anticipated types and numerical estimates of annual take for listed species during individual research or enhancement activities. Use a separate table for each discrete project or location **and label tables accordingly**. Each row must be explained in the application. All mortalities must be justified.

Location/Project: (if needed) Union Slough Restoration Site Monitoring, Snohomish River basin, Everett, WA____

ESU/ Species and population group if appropriate	Life Stage	Origin	Take Activity	Number of Fish Requested	Requested Unintentional Mortality	Research Location	Research Period
PS Chinook Salmon	*Juvenile*	*Naturally Produced*	*Capture, handle, release*	*200*	*4 out of 200*	*Union Slough, Snohomish River Basin*	*April/May*
PS Chinook Salmon	*Juvenile*	*Artificially Propagated, clipped adipose*	*Capture, handle, release*	*200*	*4 out of 200*	*Union Slough, Snohomish River Basin*	*April/May*
PS Steelhead	*Juvenile*	*Naturally Produced*	*Capture, handle, release*	*20*	*1 out of 20*	*Union Slough, Snohomish River Basin*	*April/May*
PS Steelhead	*Juvenile*	*Artificially Propagated, clipped adipose*	*Capture, handle, release*	*20*	*1 out of 20*	*Union Slough, Snohomish River Basin*	*April/May*

ESU/Species: List each ESU and Species (and populations, if appropriate) you are requesting to take. Include common and scientific names.

Life Stage: Specify fry, juvenile, smolt, pre-spawned adult, post-spawned adult (also note if live or dead when captured). You may combine juvenile (fry, juvenile, smolt) life stages.

Origin: Specify if the individuals are naturally-produced (wild), artificially-propagated (hatchery) with intact adipose fins, or artificially-propagated (hatchery) with clipped adipose fins.

Take Activity: Specify only one of the following for each line:

Collect for transport (including rescue/salvage)
Capture, handle, release
Capture, handle, tag, mark, tissue sample, and/or other invasive procedure, release
(Enter one or more intrusive procedure; you may combine or split.)
Intentional mortality (lethal take, direct mortality)
Removal (e.g., for broodstock collection)
Other take (specify)

Number of Fish Requested: Enter the number of fish that you are requesting for each Take Activity.

Requested Unintentional Mortality: Enter the number of fish that might die as an unintended result of the Take Activity. Enter it as a number OUT OF the number of fish requested for each Take Activity. Use N/A when Take Activity = Intentional mortality.

Research Location: Enter a location for each take. Identify locations that are more specific than whole project. Enter to the 4th field hydrologic unit code (HUC) whenever possible.

Research Period: Enter a range of dates. Identify dates if more specific than project as a whole.